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06/17/2004 12:08 PM

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Subject: Environmental Defense comments on the Triphenylboron Category

(Submitted via Internet 6/17/04 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, MTC@mchsi.com, and Edwin.L.Mongan-1@usa.dupont.com)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for the Triphenylboron Category.

E.I. DuPont de Nemours & Company, Inc., in response to EPA's High Production Chemical Challenge, has submitted robust summaries and a test plan describing available data and proposed testing to address SIDS elements required for the triphenylboron category. The two chemicals that constitute the category are triphenylboron (CAS# 960-71-4) and triphenylboron compound with sodium hydroxide (CAS# 12113-07-4).

This relatively brief submission states that triphenylboron (TPB) is a monofunctional Lewis acid that is manufactured in only one DuPont facility and converted to the more stable triphenylboron compound with sodium hydroxide (TPB-NaOH) for shipping purposes. According to this submission, TPB-NaOH has not been sold to any customers for commercial applications, but samples have been shipped for research purposes. Potential applications are largely restricted to industrial synthesis of other compounds. Thus, potential for environmental and consumer exposure appears limited.

Our review of this submission indicates data are adequate to address most of the chemical/physical properties of these chemicals, and minimally sufficient to address some of the SIDS elements for environmental and human toxicity. Appropriate studies are proposed to address those SIDS elements for which adequate data are not currently available.

Data that are available indicate both compounds are quite toxic to aquatic organisms, that they have some potential to persist in the environment and that are both irritating and toxic to mammals.

Review of the test plan and robust summaries indicates they are carefully prepared, but our review of the data and narrative therein raises the following comments/questions:

1. On page 4 and in Table 5 of the test plan, it is stated that the Approximate Lethal Dose (ALD) refers to a preparation that contained only 10% active ingredient. We consider this misleading, as it infers that TPB is relatively nontoxic, which is not the case. The LD50 as determined with 90% pure material is presented, but it is not clearly stated why the LD50 and the ALD differ so greatly. Table 5 and the test plan also fail to mention that data for the LD50 of TPB-NaOH were obtained using a 9% solution in water. To avoid confusion it would be better to use corrected values for the respective LD50s and eliminate the ALD values from the text

and table. The purity of the material used to determine the LD50 should also be clearly stated in each case.
2. It can be derived from the narrative in the robust summary, but it is not stated in the test plan, that the genotoxicity of these compounds can be tested only at low concentrations because they are so toxic to the test organisms. This fact should be made clear in the test plan.
3. The robust summaries are generally well-organized, but a number of the study summaries indicate that the purity of the test compound was not stated. Since a number of studies were conducted using test material that contained only 9 or 10% of the active ingredient, this is a very important oversight, and we find suspect any study in which the purity of the test compound was not clearly stated.

Finally, we agree that the additional studies proposed are appropriate.

In summary, these are not data-rich chemicals and much of the data that are available are of poor quality. Those studies that are available should be more accurately described. Further, given the fact that test material containing 9 or 10% active ingredient was used in some studies and the data were reported as if 100% active ingredient was used, we recommend against the acceptance of studies that do not accurately define the content of active ingredient. If the only study available to address a specific SIDS element is one in which the purity of the test substance is not given, then a new study, in which the purity of the test substance is clearly established, should be conducted.

Thank you for this opportunity to comment.

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